

**UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
WACO DIVISION**

INTELLECTUAL VENTURES I LLC &
INTELLECTUAL VENTURES II LLC,

Plaintiff,

v.

HEWLETT PACKARD ENTERPRISE
COMPANY,

Defendant.

Civil Action No. 6:21-cv-00226-ADA

**DEFENDANT HEWLETT PACKARD ENTERPRISE COMPANY'S
OPENING CLAIM CONSTRUCTION BRIEF**

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I. INTRODUCTION

Intellectual Ventures (“IV”) asserts more than 45 claims of seven patents against HPE. Despite the obvious need to narrow the scope and breadth of this case before discovery and trial, HPE has identified below only the key claim terms requiring construction. For most terms, HPE’s constructions reflect the plain and ordinary meaning to one of ordinary skill in the art, as informed by the intrinsic evidence. Where HPE’s constructions depart from the plain and ordinary meaning, it is only because the disputed claim term is: (a) a means-plus-function term subject to 112(6); (b) a coined term in the relevant field of technology that requires definition for the jury to understand it; or (c) indefinite. For the reasons demonstrated below, the Court should adopt HPE’s correct constructions.

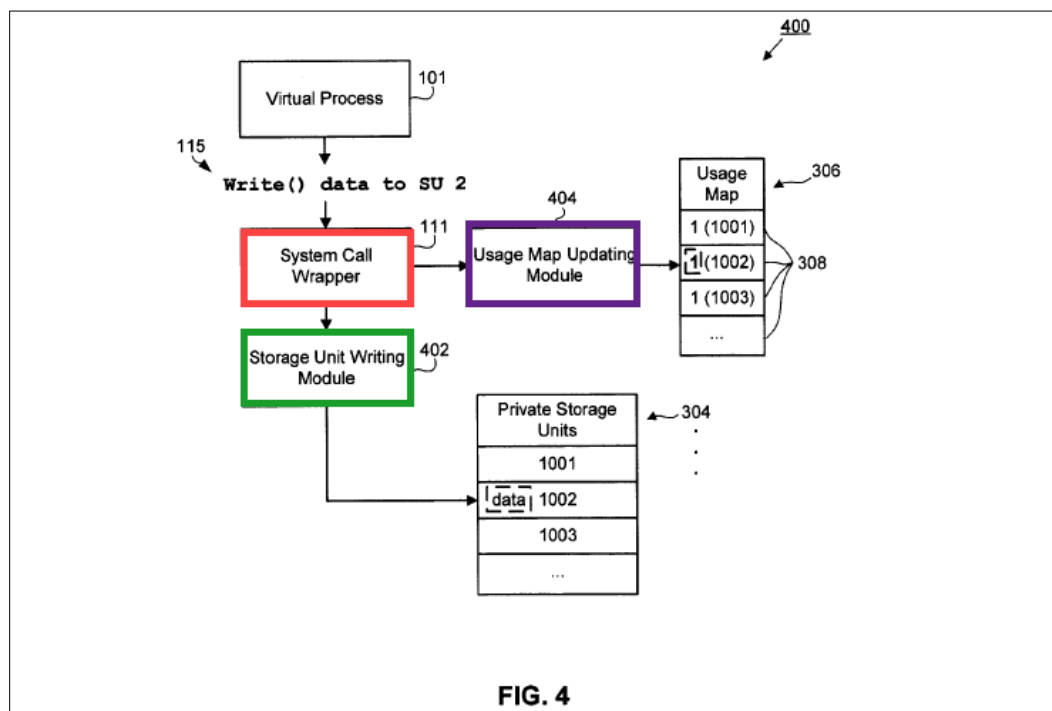
IV’s proposed constructions—and its positions during the meet-and-confer process leading up to claim construction briefing—are a different story. With one exception, IV simply mouths the words “plain and ordinary” meaning, while refusing to agree with HPE’s plain-meaning constructions or, worse yet, refusing to confirm why and how IV disagrees with HPE’s constructions. IV’s goal is obvious—it wants to keep the asserted claims as flexible and as malleable as possible, so it can try to take different positions on infringement versus invalidity, both here and in the pending IPRs, which have now been filed on three of the asserted patents. But flexibility and malleability are not the goals of claim construction, so the Court should reject IV’s attempt to inject ambiguity and uncertainty into the claim construction process.

II. THE DISPUTED TERMS OF U.S. PATENT NO. 6,618,736

A. Overview of the ’736 Patent

The ’736 patent relates to the creation and archival of file systems. ’736 patent at 1:7-9. File system creation and archival happens by defining a first set of storage units that correspond to a second set of storage units, and a usage map that indicates which units of the second set

“contain valid data.” *Id.* at 2:42-52. As shown in Figure 4 (annotated below), attempts by the system to read or write data are “intercepted.” *Id.* at 2:53-59. A virtual process invokes a system call to write data to a storage unit of a first set of storage units, as shown in element 115. ’736 Patent at 9:1-9. The system call is intercepted by system call wrapper 111 (in red), which causes a usage map 306 to be updated by a usage map updating module 404 (in purple). *Id.* at 9:18-29. The system call wrapper then invokes storage unit writing module 402 (in green) to write the data to a second, different storage unit 304. *Id.* at 9:10-17.



B. Level of Ordinary Skill in the Art for the ’736 Patent

A person of ordinary skill in the field of the ’736 patent would have had at least a bachelor’s degree in computer science or electrical engineering, plus two years of experience in the field of archival file systems. Additional education in the fields of computer science and/or electrical engineering, such as a master’s or doctorate degree, may serve as a substitute for experience in the field and vice versa.

C. “intercepting an attempt to [write/read] a data item [to/from] a [storage unit of the first set/a shared storage unit]” (claims 1, 6, 7, 17, 25, 26, 53)

HPE’s Proposed Construction	IV’s Proposed Construction
Plain and ordinary meaning, <i>i.e.</i> , receiving an attempted system call, directed elsewhere, to [write/read] a data item [to/from] a storage unit	Plain and ordinary meaning

The parties dispute the plain and ordinary meaning of the “intercepting” limitation recited in multiple claims of the ’736 patent. IV has not identified any portion of HPE’s proposed plain and ordinary meaning that purportedly is inconsistent with the claims and specification of the ’736 patent. However, the parties appear to dispute (1) that “system calls” to write or read data are intercepted (*i.e.*, received), and (2) the logic that receives the attempted write or read of data is not the intended recipient (*i.e.*, the write or read attempt is directed elsewhere). As demonstrated below, the claims and specification require both (1) and (2), consistent with HPE’s view of the plain and ordinary meaning.

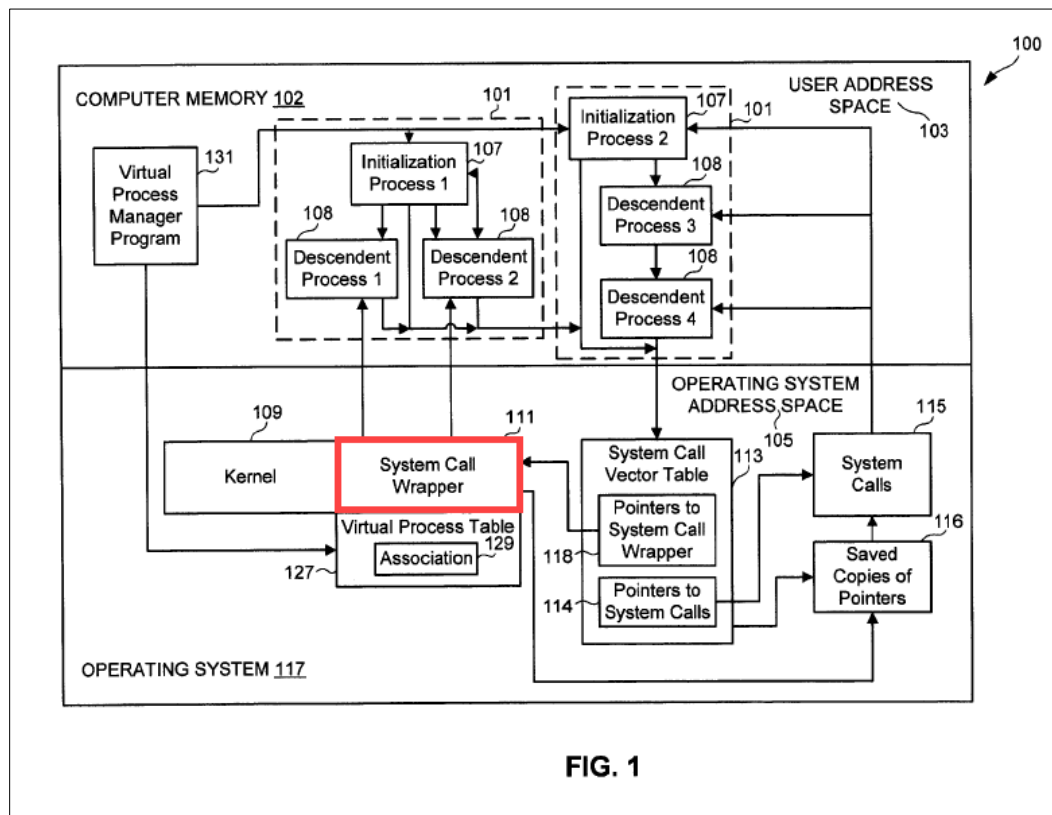
First, the plain language of the claims confirms HPE’s position that “system calls” must be intercepted and that the write or read attempt is received by logic where the attempt is directed elsewhere; that is, the logic is not the intended recipient. Claims 1, 17, and 53 recite either a method for “file system” creation and archival (claims 1 and 17) or a “computer program product for creating and archiving a file system.” ’736 patent, claims 1, 17, 53. Because the claims recite “file systems,” the recited read and write attempts are necessarily “system calls.” The claims further require that the write or read attempt be directed elsewhere than the logic that receives the attempt. Independent claims 1, 17, and 53 recite two distinct sets of storage units that “correspond[]” to each other, including a “first” and “second” set (claims 1 and 53) or a “shared” set and a “private” set (claim 17). *Id.* Each claim also recites “intercepting an attempt to write a data item” to a “first” or “shared” set of storage units. *Id.* Those claims further recite,

in response to intercepting the write attempt, the data is written to a storage unit in the “second” or “private” set of storage units. *Id.* Importantly, the data is not written to the “first” or “shared” sets of storage units, but it is instead intercepted by logic that directs the data elsewhere, causing the data to be written to the “second” or “private” sets of storage units. Thus, the “directed elsewhere” portion of HPE’s plain and ordinary meaning proposal is correct.

Second, the specification confirms that HPE’s position on the plain and ordinary meaning is correct. The specification emphasizes two key points: (1) a “system call” to write or read data is intercepted; and (2) the attempted system call has an intended target but is instead intercepted by a “system call wrapper” or similar logic. On the first point, the specification exclusively describes intercepting system calls. *See* ’736 patent at 5:58 (“By intercepting a system call 115”); 5:18-19 (“System calls 115 that generate child processes ... are intercepted”); 5:20-22 (“a system call wrapper 111 is used to intercept system calls 115”); 5:25-27 (“various other techniques may be used to intercept the system calls 115”); 5:40-41 (“A copy 116 is made of a pointer 114 to each system call 115 to be intercepted”); 5:45-48; 5:63-65; 6:1-7; 9:4-7; 9:30-33; 9:36-37; 9:53; 10:46-47. Thus, although the specification teaches that various techniques may be used to intercept the system calls, the specification uniformly discloses that system calls are intercepted, regardless of the logic used to intercept those calls.

On the second point, the specification confirms (consistent with the plain and ordinary meaning of “intercepting”) that the attempted write or read of data is intended for an initial target but is instead received by a “system call wrapper” or similar logic. As depicted in every figure that discloses logic for intercepting write or read attempts, the specification discloses a “system call wrapper” that intercepts the attempt. Figure 1 (annotated below) depicts a system that

includes a memory 102, a user address space 103, an operating system address space 105, and a system call wrapper 111 “used to intercept system calls 115.” *Id.* at Fig. 1; 5:20-22.



Figures 4-6, which describe the intercepting process, similarly disclose that “system call wrapper 111” is used to intercept a write attempt (Figure 4) or a read attempt (Figures 5-6). *Id.* at Figs 5-6; *see also* 9:4-7 (“[I]n one implementation, a system call wrapper 111, as described with reference to FIG. 1, intercepts a system call 115 for writing a data item to a shared storage unit 202.”). An interception occurs because the system call wrapper is not the intended recipient of the write or read attempt. The wrapper receives the write or read attempt and causes “alternative code” to be executed. *Id.* at 5:58-59. The system call wrapper only invokes the “alternative code” when the system call is intercepted, meaning the system call wrapper is not the intended target for receiving the call in the first place. Rather, the call is directed elsewhere than the

system call wrapper or other logic that intercepts the call and causes alternative code to be executed. *See id.* at 5:58-64.

For the foregoing reasons, HPE's proposal reflects the plain and ordinary meaning of the "intercepting" term in light of the claims and specification and therefore is correct.

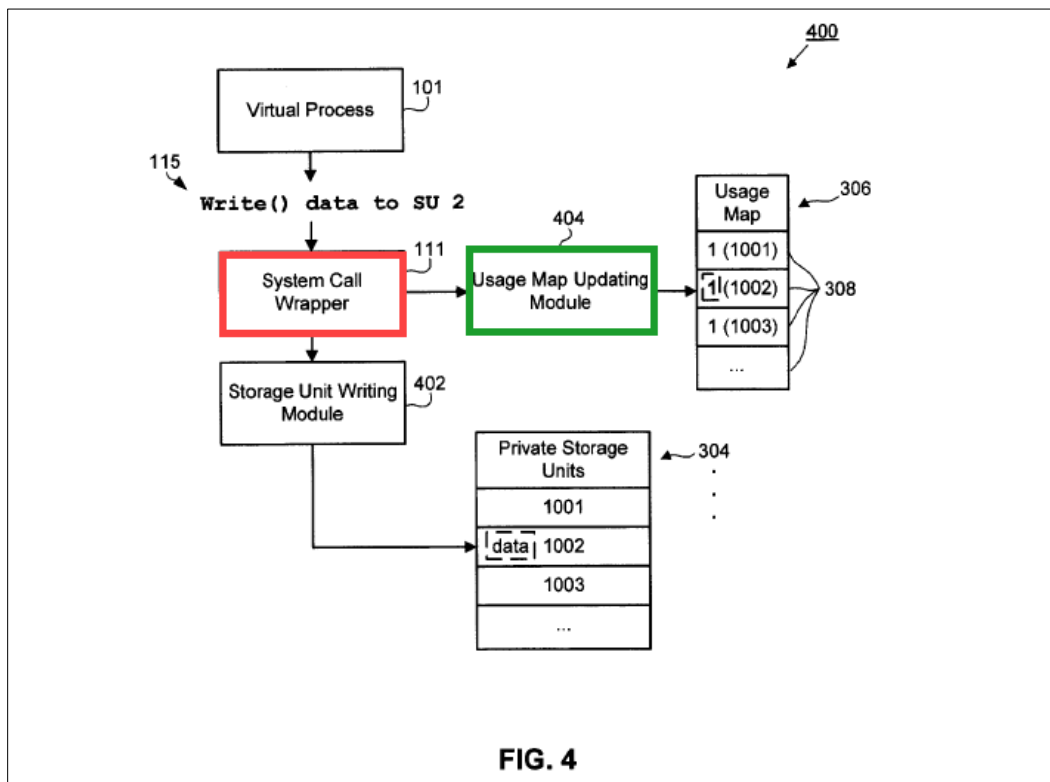
D. "An computer program product ..." (claim 53)

Claim Term	HPE's Proposed Construction	IV's Proposed Construction
"An computer program product ... comprising ...	Means plus function term subject to § 112 ¶ 6.	Means plus function term subject to § 112 ¶ 6.
[1] "program code for intercepting an attempt to write a data item to a storage unit of the first set;"	The functions are: [1] intercepting an attempt to write a data item to a storage unit of the first set [2] writing the data item to the corresponding storage unit of the second set	The functions are: [1] intercepting an attempt to write a data item to a storage unit of the first set [2] writing the data item to the corresponding storage unit of the second set
[2] program code for writing the data item to the corresponding storage unit of the second set; and"	[3] storing an indication in the first usage map that the corresponding storage unit of the second set contains valid data	[3] storing an indication in the first usage map that the corresponding storage unit of the second set contains valid data
[3] "program code for storing an indication in the first usage map that the corresponding storage unit of the second set contains valid data."	The corresponding structures for each of these functions are: [1] system call wrapper 111 as shown in Figure 4 and description at 5:17-27, 9:4-7. [2] storage unit writing module 402 as shown in Figure 4 and description at 9:10-17. [3] usage map updating module 404 as shown in Figure 4 and description at 9:18-29.	The corresponding structure for each of these functions are: [1] system call wrapper 111 and description at 5:17-27, 5:40-49, 5:58-67, 9:4-7; system call vector table 113, Fig. 1, and description at 5:28-39 and 5:50-57. [2] storage unit writing module 402, Fig. 4, and description at 9:10-17. [3] usage map updating module 404 and description at 9:18-29; usage map 306; Fig. 4; 8:35-45.

The parties agree each of the recited "program code" limitations are means-plus-function terms subject to 35 U.S.C. § 112(6). The parties also agree on the recited function for those

terms, and further agree on corresponding structure for the second “program code” limitation. The only dispute is the proper corresponding structure for performing the agreed functions for the first and third “program code” limitations. As demonstrated below, HPE’s corresponding structure for the first and third “program code” limitations is correct, while IV’s is not.

The parties agree that the corresponding structure for the first “program code” limitation (“program code for intercepting an attempt to write a data item to a storage unit of the first set”) includes system call wrapper 111 depicted in Figure 4 and the description at 5:17-27 and 9:4-9. As shown in annotated Figure 4 below, a virtual process (element 101) causes a system call (element 115, ‘Write() data to SU 2’) to issue. The patent confirms that a “system call wrapper 111, as described with reference to FIG. 1, intercepts a system call 115 for writing a data item to a shared storage unit 202.” ’736 patent at 9:4–7 (emphasis added). Thus, system call wrapper 111 (shown in red) intercepts system call 115:



The specification further discloses that “[s]ystem calls 115 that generate child processes ... are intercepted so that the child processes can be associated with the virtual process 101 with which the parent process is associated.” *Id.* at 5:17-20. The “system call wrapper 111 is used to intercept system calls 115,” which may be loaded into an operating system or user address space. *Id.* at 5:20-25. HPE’s corresponding structure is therefore correct and complete.

IV’s proposed structure, in contrast, goes beyond HPE’s proposal to identify structures that do not perform the claimed function—namely, system call vector table 113, Figure 1, and the description at 5:28-39 and 5:50-57. *See Asyst Technologies, Inc. v. Empak, Inc.*, 268 F.3d 1364, 1370 (Fed. Cir. 2001) (“[s]tructural features that do not actually perform the recited function do not constitute corresponding structure and thus do not serve as claim limitations.”). System call vector table 113 plays no part in the function of “intercepting an attempt to write a data item to a storage unit of the first set,” but rather is simply an area in the operating system address space in which addresses of system calls are stored. ’736 patent at 5:29-32. And Figure 1 cannot be corresponding structure for the first “program code” limitation either, because it depicts a different embodiment than the one claimed in claim 53. Claim 53 recites “a first usage map,” but Figure 1 does not depict a “usage map.” Rather, Figure 4 discloses usage map 306 (see above figure). Thus, Figure 4 discloses corresponding structure for performing the first “program code” function recited in claim 53, while Figure 1 does not.

The third “program code” limitation (“program code for storing an indication in the first usage map that the corresponding storage unit of the second set contains valid data”) includes the usage map updating module, shown as element 404 in Figure 4, and the description at 9:18-29. As shown in the green box in Figure 4, the usage map updating module (element 404) “stores an indication 308 in the usage map 306 that the private storage unit 304 (to which the data item is

written) contains valid data.” ’736 patent at 9:18-21. The usage map updating module performs the recited function of “storing an indication in the first usage map that the corresponding storage unit of the second set contains valid data,” so HPE’s structure is correct and complete.

IV’s proposed inclusion of “usage map 306” is incorrect at least because claim 53 separately recites a usage map: “a first usage map for indicating which storage units of the second set contain valid data.” ’736 patent, claim 53. IV’s proposed structure therefore is redundant of a limitation recited in claim 53 and raises the question of whether the “first usage map” is the same or different than the “usage map 306” included in IV’s proposed structure.

III. THE DISPUTED TERMS OF U.S. PATENT NO. 6,816,464

A. Overview of the ’464 Patent

The ’464 patent relates to voice over Internet protocol (VoIP) communications. ’464 patent at 1:9-10. VoIP data is extremely time dependent because transmission delays alter the voice data received by the receiving party. *Id.* at 1:22-24. According to the specification, “the invention relates to route testing and selection over packet-switched networks,” with the goal of picking a route best suited for VoIP. *Id.* at 1:9-11. The patent discloses a mechanism for testing candidate routes using quality measurement packets. *Id.* at 2:46-48.

B. Level of Ordinary Skill in the Art for the ’464 Patent

A person of ordinary skill in the field of the ’464 patent would have had at least a bachelor’s degree in computer science or electrical engineering plus two years of experience in the field of networking/communications. Additional education in the fields of computer science and/or electrical engineering such as a master’s or doctorate degree may serve as a substitute for experience in the field.

C. “route” (claim 1)

HPE’s Proposed Construction	IV’s Proposed Construction
Plain and ordinary meaning, <i>i.e.</i> , path in the network from the origin of a packet or packets to their destination	Plain and ordinary meaning

HPE’s proposal reflects the plain and ordinary meaning of the term in light of the ’464 patent specification. IV agrees that “route” should have its plain and ordinary meaning, but disagrees with HPE’s plain-meaning position, so the Court should resolve the parties’ dispute over claim scope. *See Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1319 (Fed. Cir. 2016) (“By determining only that the terms should be given their plain and ordinary meaning, the court left this question of claim scope unanswered, leaving it for the jury to decide.”).

The claim language supports HPE’s position. In claim 1, route statistics are determined by transmitting quality measurement packets over each candidate route and receiving returned quality measurement packets over each route. *See* ’464 patent, claim 1. This confirms that a route is a path in the network from the origin of a packet or packets to their destination.

The Background of the ’464 patent specification also provides the plain meaning of a number of common technical terms, including “route.” The patent starts by explaining that the “invention relates to route testing and selection over packet-switched networks.” ’464 patent, 1:9-11. The patent then introduces VoIP and the need for good “route quality” during a VoIP call. *Id.* at 1:14-17. The patent then provides the plain meaning of “route,” which is identical to HPE’s proposal:

In a packet-switched network, latency and jitter are measurable qualities of network performance. Latency is the amount of time it takes a packet to reach its destination. Jitter is the variation in latency. The route is the path in the network from the origin of a packet or packets to their destination. A route can be a direct end-

to-end connection path, or it can consist of a path linked by any number of routers, switches, gateways, gatekeepers, etc.

'464 patent at 1:25-33 (emphasis added). With that background established, the remainder of the specification uses the term “route” in the same manner. *See, e.g.*, '464 patent at 9:8-11 (“In an embodiment, the destination gateways receive a quality measurement packet from another gateway and return a packet back to the originating gateway as soon as possible.”).

HPE’s proposal for “route” therefore reflects the plain and ordinary meaning of the word as confirmed by the claims and specification.

D. “route statistics” (claim 1)

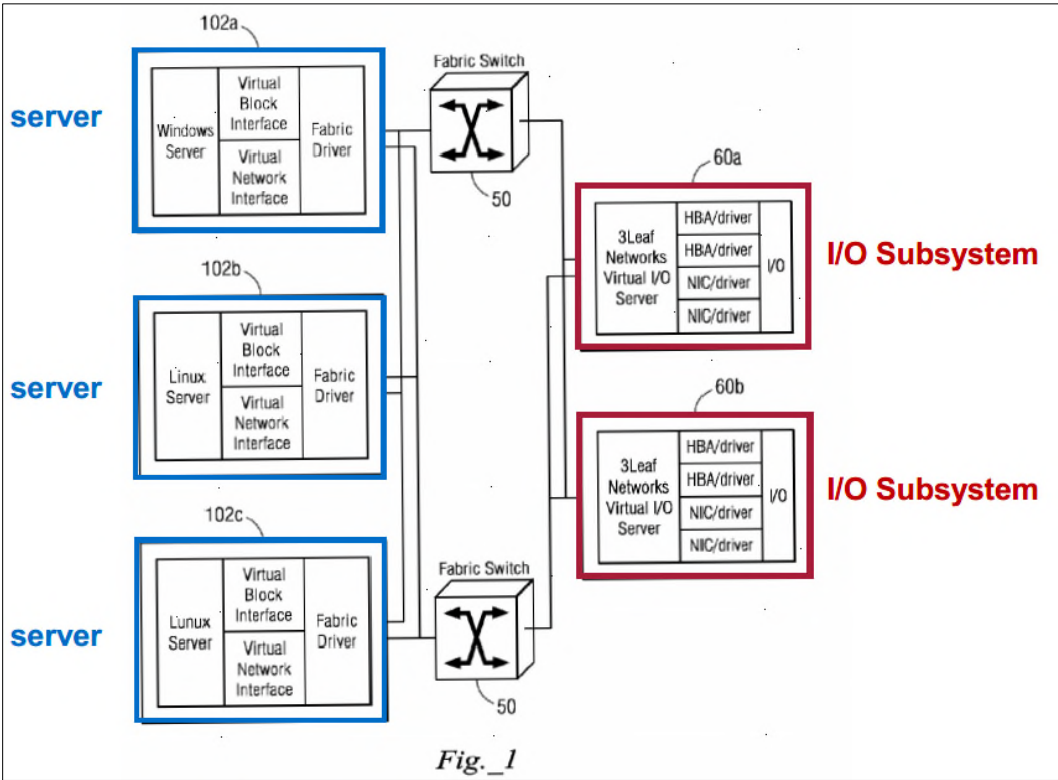
HPE’s Proposed Construction	IV’s Proposed Construction
Plain and ordinary meaning	Statistics related to the quality of a network path (route)

Having established the plain and ordinary meaning of “route” in the preceding section, HPE contends that no further construction of “route statistics” is necessary. The meaning of the word “statistics” is not in dispute, and if anything, IV’s proposal of “network path (route)” supports HPE’s plain-meaning position on “route,” set forth above. If the Court decides to separately construe “route statistics,” HPE proposes the phrase “statistics related to the quality of a route” to define “route statistics.”

IV. THE DISPUTED TERMS OF U.S. PATENT NO. 7,783,788

A. Overview of the '788 Patent

The '788 patent discloses a mechanism for presenting I/O subsystems to various servers to facilitate sharing of components of the I/O subsystems by the servers. '788 patent at Abstract. This concept is depicted in annotated Figure 1:



An I/O subsystem might include, for example, a number of host-bus adapters and network interface cards that are accessible to each of the servers through the I/O subsystem. *Id.* at Abstract; 3:18-30.

B. Level of Ordinary Skill in the Art for the '788 Patent

A person of ordinary skill in the field of the '788 patent would have had at least a bachelor's degree in computer science or electrical engineering, plus two years of experience in the field of networking/communications. Additional education in the fields of computer science and/or electrical engineering such as a master's or doctorate degree may serve as a substitute for experience in the field.

C. "I/O peripheral subsystem configurations" (claim 1)

HPE's Proposed Construction	IV's Proposed Construction
Plain and ordinary meaning, <i>i.e.</i> , data indicating the components of the I/O peripheral subsystem	Plain and ordinary meaning

HPE’s plain and ordinary meaning for “I/O peripheral subsystem configurations” is confirmed by the ’788 patent specification. IV’s proposal, on the other hand, does not indicate which of several plain meanings of “configurations” applies to this claim term. The specification discloses: “When an application server 102 is booted, it will contact the virtual I/O server 60 over the fabric to obtain the device configuration (including, for example, virtual block devices and virtual network interfaces) from the virtual I/O server 60.” ’788 patent, 9:44-47 (emphasis added). The specification further discloses:

As discussed herein, the virtual device and network layers initially use the connection to obtain configuration information to present to the operating system of the application server 102. In one implementation, virtual block device interface 208 is operative to maintain a connection with virtual block interface 326 of virtual I/O server 60, while virtual network interface 220 is operative to maintain a connection with virtual network interface 346. In one implementation, the respective connections are persistent, reliable connections involving a handshake protocol to set up the connection.

Id. at 11:46-60 (emphasis added). Thus, the specification confirms that “configuration” information in this context refers to data indicating the components of the I/O peripheral subsystem. *See Wi-LAN USA, Inc. v. Apple Inc.*, 830 F.3d 1374, 1382 (Fed. Cir. 2016) (“Consistent use of a term in a particular way in the specification can inform the proper construction of that term.”). HPE’s plain and ordinary meaning position is therefore correct.

V. THE DISPUTED TERMS OF U.S. PATENT NOS. 8,023,991 AND 8,725,132.

A. Overview of the ’991 and ’132 Patents

The ’991 and ’132 patents claim priority to Application No. 10/781,137 (“the ’137 application”), which claims priority to four provisional applications, the earliest of which was filed February 24, 2003. Both patents are directed to wireless networks, such as IEEE 802.11 compliant networks, in which wireless devices called stations (STAs) communicate with other

network devices via one or more access points (APs). *See* '991 patent at 4:20-50. The patents disclose that “APs can perform automatic power adjustment so that multiple APs can operate on the same channel while minimizing interference with each other.” *Id.* at 1:62-64.

B. Level of Ordinary Skill in the Art for the '991 and '132 Patents

A person of ordinary skill in the field of the '991 and '132 patents would have had at least a bachelor's degree in electrical engineering, plus three years of experience in the field of wireless networking/communications. Additional education in the field of electrical engineering such as a master's or doctorate degree may serve as a substitute for experience in the field.

C. “A computer program product ...” ('991 patent, claim 1)

Claim Term	HPE's Proposed Construction	IV's Proposed Construction
“A computer program product recorded on a computer-readable medium, comprising: logic for detecting that a first access point is using a radio frequency channel; . . . logic . . . for instructing the first access point to adjust transmit power”	Plain and ordinary meaning, which does <u>not</u> include logic executed at said first access point	Plain and ordinary meaning

The plain and ordinary meaning of '991 patent claim 1 in view of the intrinsic record requires the claimed “logic for detecting” and “logic for instructing” are not executed at the first access point. The sole claim of the patent as initially filed required the “first access point” “execute[]” the recited “logic” of the claimed “computer program product.” But faced with a rejection of the claim, the applicant amended the claim to separate the “computer program product” and its “logic” from the “first access point.”

Patent Application No. 12/827,021 (“the '021 application”), which issued as the '991 patent, was filed with the following single claim:

1. A computer program product recorded on a computer-readable medium for a first access point capable of communicating in a wireless communications network via a radio frequency channel, comprising:

logic for detecting that a second access point is also using the radio frequency channel, the detecting logic including:

logic for receiving messages from the second access point; and

logic for maintaining indications of the transmit power levels of other access points including the second access point; and

logic, responsive to the indications of the transmit power levels of other access points maintained by the detecting logic, for adjusting transmit power to decrease interference with the second access point detected to be using the radio frequency channel;

wherein the detecting logic and the reducing transmit power logic are executed by the first access point.

Ex. 2, '021 application, claim 1 (emphasis added). The underlined language recites that the computer-readable medium is “for” the first access point, and that all of the claimed “logic” is “executed by the first access point.” However, the examiner rejected the claim based on non-statutory double patenting in view of claim 1 of U.S. Patent No. 7,774,013 (App. No. 10/781,137), which issued from the parent application of the '991 patent. Ex. 3, '021 application, 10/1/10 Office Action at 2–3 (finding “both inventions are drawn to a computer program product recorded on a computer-readable medium for a first access point capable of communicating in a wireless communications network via a RF channel.”). In response, the applicant amended claim 1 as follows, which then issued as claim 1 of the '991 patent:

1. (currently amended) A computer program product recorded on a computer-readable medium ~~for a first access point capable of communicating in a wireless communications network via a radio frequency channel,~~ comprising:

logic for detecting that a first access point is using a radio frequency channel;

logic for detecting that a second access point is also using the radio frequency channel, the detecting logic including:

logic for receiving messages from the second access point; and

logic for maintaining indications of the transmit power levels of other access points including the second access point; and

logic, responsive to the indications of the transmit power levels of other access points maintained by the detecting logic, for ~~instructing the first access point to adjust~~ adjusting

transmit power to decrease interference with the second access point detected to be using the radio frequency channel; wherein the ~~detecting logic and the reducing transmit power logic are executed by the first access point~~ adjusts transmit power as instructed.

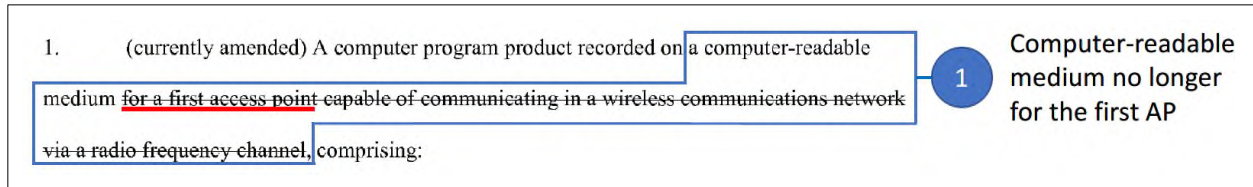
Ex. 4, '021 application, 2/1/11 Amendment at 2 (colored annotations added).

The parties dispute whether the claimed “computer program product” can be located at either the “first access point” (in which case the logic is executed by the first access point) or at a device separate from the first access point (in which case the claimed logic is not executed by the first access point).¹ Ex. 5, Infringement Contentions at Ex. F at 3, 5 (accusing a “distributed approach” where the alleged “logic for detecting” is located at an access point); Ex. G at 4, 5 (accusing AirMatch as implementing the alleged “logic for detecting” on a virtual machine). For

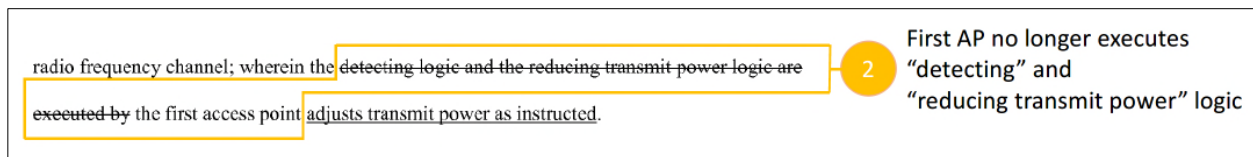
¹ If the '991 patent claim is found to encompass logic executed at the first access point (which it does not), then the “logic for detecting the first access point is using a radio frequency channel” is indefinite and the claim is invalid.

at least three reasons, the above claim amendment confirms that the latter configuration—*i.e.*, the separate device configuration—is correct.

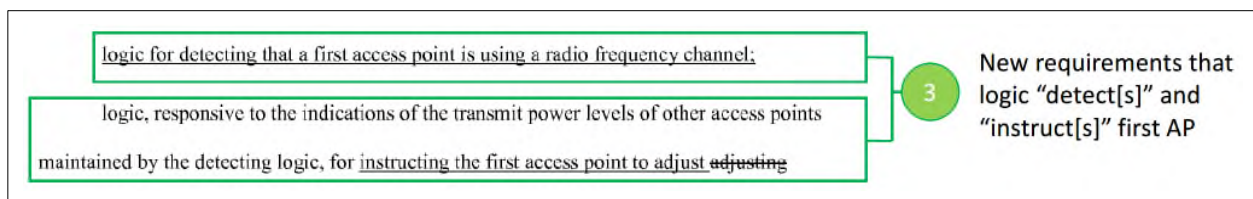
First, the applicant removed the language restricting the computer readable medium to the first access point in order to distinguish the 7,774,013 patent claim that recited the same computer readable medium:



Second, as amended, the “logic for detecting” (or any other logic) is no longer “executed by the first access point”:



Third, the applicant added “logic for detecting that a first access point is using a radio frequency channel,” and logic “for instructing the first access point to adjust transmit power”:



The reference to logic for “detecting” and “instructing” operations of a “first access point” informs a person of ordinary skill that the “logic for detecting” and the “logic for instructing” are not executed at the first access point. Said another way, if these logic components were executed at the first access point, the first access point would be detecting that itself is using a radio frequency channel and instructing itself to adjust transmit power. This is nonsensical and finds

no support in the specification. Thus, the intrinsic record and plain meaning of the claim confirm that HPE's plain-meaning proposal is correct.

**D. “wherein the first access point adjusts transmit power as instructed”
(’991 patent, claim 1)**

HPE’s Proposed Construction	IV’s Proposed Construction
Indefinite (mixed method and apparatus claim).	Plain and ordinary meaning

The only claim of the ’991 patent recites both a method and an apparatus and therefore is invalid as indefinite under 35 U.S.C. § 112, second paragraph. *See IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005). Claim 1 recites a “computer program product,” (*i.e.*, an apparatus) comprising “logic for detecting that a first access point is using a radio frequency channel” and “logic ... for instructing the first access point to adjust transmit power ... wherein the first access point adjusts transmit power as instructed” (emphasis added).

A claim that recites both an apparatus and a method of using that apparatus “does not apprise a person of ordinary skill in the art of its scope, and it is invalid under section 112, paragraph 2.” *IPXL Holdings*, 430 F.3d at 1384. The claim at issue in *IPXL* recited a system including “[input means] wherein the predicted transaction information comprises both a transaction type and a transaction parameter,” along with the method limitation “the user uses the input means.” *Id.* (emphasis added). The Federal Circuit held the claim indefinite because “it is unclear whether infringement of claim 25 occurs when one creates a system that allows the user to change the predicted transaction information or accept the displayed transaction, or whether infringement occurs when the user actually uses the input means to change transaction information or uses the input means to accept a displayed transaction.” *Id.*

Applying *IPXL*, the Federal Circuit found a claim similar to claim 1 of the '991 patent invalid in *Rembrandt Data Techs., LP v. AOL, LLC*, 641 F.3d 1331 (Fed. Cir. 2011). A side-by-side comparison shows the similarities:

<u>Rembrandt claim 3 (indefinite)</u>	<u>'991 patent claim 1 (also indefinite)</u>
<p>3. A data transmitting device for transmitting signals corresponding to an incoming stream of bits, comprising:</p> <p>first buffer means for partitioning said stream into frames ... and for separating the bits of each frame into a first group and a second group of bits;</p> <p>fractional encoding means for receiving the first group of bits of each frame and performing fractional encoding to generate a group of fractionally encoded bits;</p> <p>second buffer means for combining said second group of bits with said group of fractionally encoded bits to form frames of equal number of bits;</p> <p>trellis encoding means for trellis encoding the frames from said second buffer means; and</p> <p><u>transmitting the trellis encoded frames.</u></p>	<p>1. A computer program product recorded on a computer-readable medium, comprising:</p> <p>logic for detecting that a first access point is using a radio frequency channel;</p> <p>logic for detecting that a second access point is also using the radio frequency channel, the detecting logic including:</p> <p>logic for receiving messages from the second access point; and</p> <p>logic for maintaining indications of the transmit power levels of other access points including the second access point; and</p> <p>logic, ... for instructing the first access point to adjust transmit power ... ;</p> <p><u>wherein the first access point adjusts transmit power as instructed.</u></p>

Id. at 1339 (emphasis added); '991 patent, claim 1 (emphasis added). The Federal Circuit explained in *Rembrandt* that the claimed “data transmitting device” included the “apparatus elements[] buffer means, fractional encoding means, second buffer means, and trellis encoding means,” but the “final element is a method: ‘transmitting the trellis encoded frames.’”

Rembrandt, 641 F.3d at 1339. Claim 1 of the '991 patent similarly recites apparatus elements logic for detecting, logic for receiving, and logic for instructing, but recites a final method limitation “the first access point adjusts transmit power” Thus, like the claims in *IPXL* and *Rembrandt*, it is unclear whether infringement of '991 patent claim 1 occurs when one makes, uses, or sells a “computer program product” having the claimed “logic” or when “the first access

point adjusts transmit power as instructed.” The claim is therefore invalid as indefinite under 35 U.S.C. § 112, second paragraph.

Furthermore, the method step of ’991 patent claim 1 is not merely functional language describing a capability of the “computer program product” or the claimed “logic.” *See, e.g., HTC Corp. v. IPCom GmbH & Co.*, 667 F.3d 1270, 1277 (Fed. Cir. 2012) (upholding functional claiming where the claims “merely establish those functions as the underlying ... environment in which the [apparatus] operates.”). Unlike the claim in *HTC*, the method step of the ’991 patent claim is not describing an “environment,” but instead recites an action taken by the first access point after being instructed to “adjust transmit power” by the claimed “logic ... for instructing.” *See also Aventis Pharma S.A. v. Hospira, Inc.*, 743 F. Supp. 2d 305, 320, 329 (D. Del. 2010) (phrase “whereby said therapeutic composition forms or is used to form an injectable solution” was indefinite because “the disputed claim language in this case does not merely provide the context in which the claimed composition is intended to be used”), *aff’d on other grounds*, 675 F.3d 1324 (Fed. Cir. 2012).

Claim 1 of the ’991 patent also is similar to the claim invalidated by the Federal Circuit in *In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303 (Fed. Cir. 2011). There, the Federal Circuit rejected the plaintiff’s argument that “the term ‘wherein’ does not signify a method step but instead defines a functional capability.” *Id.* at 1318. Katz’s claims recited a system with an “interface means for providing automated voice messages ... to certain of said individual callers, wherein ... callers digitally enter data.” *Id.* (emphasis added). The Federal Circuit held that, like the claim at issue in *IPXL*, the method step of the Katz claims “is directed to user actions, not system capabilities.” *Id.* As in *Katz*, the final “wherein” clause of ’991 patent claim 1 requires an action by the first access point. Claim 1 therefore is indefinite.

E. “in order to reduce interference” (’132 patent, claim 1)

HPE’s Proposed Construction	IV’s Proposed Construction
Plain and ordinary meaning, <i>i.e.</i> , for the purpose of reducing interference	Plain and ordinary meaning

Claim 1 of the ’132 patent contains an express statement of purpose: “the selected power level is repeatedly adjusted in order to reduce interference,” and indicating “a power level at which a variable power transmitter ... should be set in order to reduce interference.” (Emphasis added.) The plain and ordinary meaning of “[the selected power level is repeatedly adjusted] in order to reduce interference” is that the power level is adjusted “for the purpose of reducing interference.” Likewise, the plain and ordinary meaning of “[a power level at which a variable power transmitter should be set] in order to reduce interference” is that the power level is indicated “for the purpose of reducing interference.” This purpose is reflected in the plain language of the claim—“in order to”—and was confirmed throughout the intrinsic record.

During prosecution, the applicant repeatedly emphasized that the power level adjustments were for the “purpose” of reducing interference, where decreasing power for other reasons was not enough to meet the disputed claim language. For example, the applicant distinguished the Oberholtzer reference over the claims because even though Oberholtzer reduced transmit power, this was done for purposes other than to reduce interference. The applicant explained that Oberholtzer related to “how the system harmonizes the power level,” such that while signals “will have their power level lowered to match; such an adjustment of for these higher SNR signals is for harmonization purposes, but has nothing to do with interference adjustment.” Ex. 6, 8/24/12 Applicant Remarks at 5 (emphasis added). In the same response, the applicant distinguished Gilhousen because it “has no discussion of interference.” *Id.* at 6; *see also* Ex. 7, 10/25/12 Applicant Remarks at 6-7 (“nowhere does [the Oberholtzer] disclosure relate to reduction of interference”; Ex. 8, 9/17/13 Applicant Remarks at 8 (“no teaching or suggestion

that Dent addresses interference at the power level”). The applicant also distinguished Gilhousen as failing to disclose adjusting transmit power “in order to reduce undesirable interference” where Gilhousen instead “describes countering Rayleigh fading and never mentions interference.” Ex. 9, 8/16/11 Applicant Remarks at 4.

Thus, the repeated treatment of the disputed term in the intrinsic record confirms that its plain meaning is “for the purpose of reducing interference.” This plain meaning is further confirmed by dictionaries that define “in order to” to mean “for the purpose of.” Ex. 10, THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE at 1238 (4th ed. 2000).

VI. THE DISPUTED TERMS OF U.S. REISSUE PATENT NO. 42,153

A. Overview of the ’153 Patent

The ’153 patent relates to coordinating network-connected client systems in a distributed computing environment for processing a project, such as network site testing. ’153 patent at 1:61-67. The client devices each run a client agent program that receives workloads from a distributed server system, where the workloads are associated with the same project. *Id.* at 2:25-35. Poll communications “between the client systems and the server systems” are then used for “control[ing], manag[ing], and coordinat[ing]” projects that have been distributed to the client systems. *Id.* at 2:35-39.

B. Level of Ordinary Skill in the Art for the ’153 Patent

A person of ordinary skill in the field of the ’153 patent would have had at least a bachelor’s degree in computer science or electrical engineering, plus two years of experience in the field of distributed computing systems. Additional education in the fields of computer science and/or electrical engineering, such as a master’s or doctorate degree, may serve as a substitute for experience in the field, and vice versa.

C. “sending the poll response communications to the client systems” (claim 1)

HPE’s Proposed Construction	IV’s Proposed Construction
Plain and ordinary meaning, <i>i.e.</i> , sending the poll response communications to each of the client systems.	Plain and ordinary meaning

The parties agree this term should have its plain and ordinary meaning, but disagree about that plain meaning. For the reasons discussed below, HPE’s proposal (“sending the poll response communications to each of the client systems”) is the plain meaning based on the claims and specification and should be adopted.

First, the claim language supports HPE’s position. Claim 1 recites a “method of providing dynamic coordination of distributed client systems in a distributed computing platform,” including “providing a plurality of network-connected distributed client systems” and “sending the poll response communications to the client systems.” ’153 patent at 28:43-45; 28:48-49; 29:7-8. Claim 1 recites sending the poll response communications to “the client systems.” It does not recite sending the poll response communications to “one or more” of the client systems, nor does it recite sending the communications to a “subset” of the client systems.

Second, the specification supports HPE’s position. The ’153 patent consistently discloses the importance of coordinating activities of client systems connected to a “distributed processing platform.” The Abstract discloses “[d]ynamic coordination and control of network connected devices within a distributed processing platform” for “large-scale network site testing, or for other distributed projects.” ’153 patent at Abstract. The patent then discloses the “present invention” as “a dynamic coordination and control architecture” that “utilizes a plurality of network-connected client devices.” *Id.* at 3:30-32; *see also Pacing Techs., LLC v. Garmin Inter. Inc.*, 778 F.3d 1021, 1025 (Fed. Cir. 2015) (“[w]hen a patentee ‘describes the features of the ‘present invention’ as a whole,” he alerts the reader that “this description limits the scope of the

invention.”) (citing *Regents of Univ. of Minn. v. AGA Med. Corp.*, 717 F.3d 929, 936 (Fed. Cir. 2013)). According to the patent, poll communications are used to enable coordination: “Poll communications between the client systems and the server systems are used during processing of the distributed project to control, manage and coordinate the activities of the distributed devices in accomplishing the project goal, such as network site testing.” ’153 patent at 2:35-39; *see also id.* at 3:36-39. The patent repeatedly stresses the importance of coordinating the client systems. *See id.* at 3:47-56; 14:19-35; 15:1-17:51; 18:9-21:13. Thus, any construction that departs from HPE’s plain-meaning proposal departs from the “present invention” disclosed in the ’153 patent; namely, enabling coordination among client devices by sending the messages to each client. *Id.* at 3:30-32. HPE’s position about the plain and ordinary meaning is therefore correct.

VII. THE DISPUTED TERMS OF U.S. REISSUE PATENT NO. 44,818

A. Overview of the ’818 Patent

The ’818 discloses a mechanism for allocating network resources to different devices on the network. ’818 patent at Abstract. The mechanism utilizes a “hierarchical token bucket resource allocation” whereby the devices are placed in a multi-level hierarchy, and each level of the hierarchy has a bucket containing tokens. *Id.* at 10:15-29. Tokens are used whenever a communication from that level of the hierarchy occurs, and before a new communication is executed, the bucket is first checked to see if the requisite number of tokens exist in the bucket. *Id.* at 10:15-29.

B. Level of Ordinary Skill in the Art for the ’818 Patent

A person of ordinary skill in the field of the ’818 patent would have had at least a bachelor’s degree in computer science or electrical engineering, plus two years of experience in the field of networking/communications. Additional education in the fields of computer science

and/or electrical engineering such as a master's or doctorate degree may serve as a substitute for experience in the field.

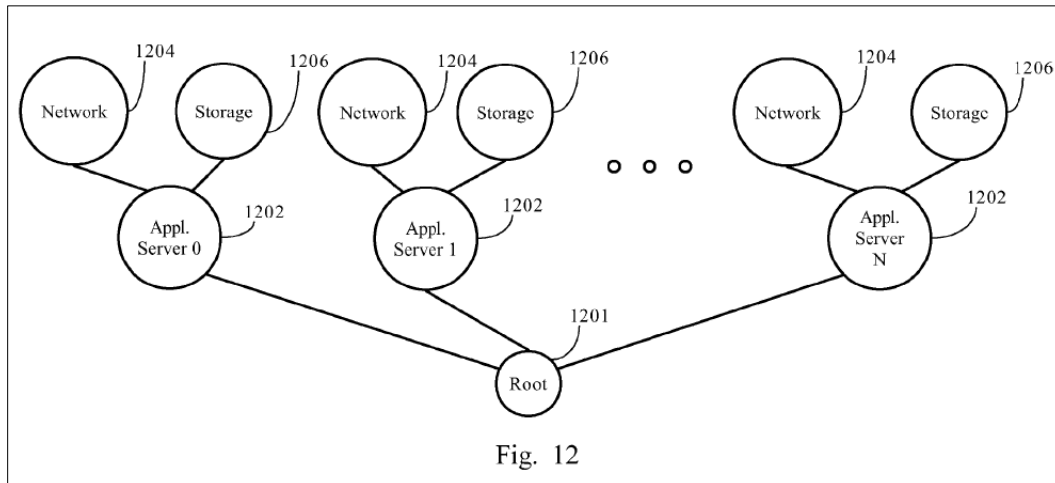
C. “hierarchical token bucket resource allocation” (claims 1, 2, 17, 18, 30, 32, 34)

HPE's Proposed Construction	IV's Proposed Construction
allocation of resources using a class structure arranged in two or more levels, where each class has a bucket of tokens associated with it and scheduling a transmission results in deducting an amount of tokens from a corresponding bucket	Plain and ordinary meaning

“Hierarchical token bucket” is a coined term within the relevant field of technology (*i.e.*, technical jargon), and the patent specification expressly informs the public of the meaning of that coined term. The patent begins its description of “hierarchical token bucket” (or “HTB” for short) by disclosing: “Hierarchical token bucket can be considered as a class-based scheduling mechanism. HTB includes hierarchical classes where three class types exist: root, non-leaf and leaf.” ’818 patent at 10:15-17 (emphasis added). The patent continues: “Root classes are at the top of the hierarchy, and all traffic essentially goes through them. Non-leaf classes have parent and child classes, while leaf classes have only parent classes.” *Id.* at 10:18-20. And according to the patent:

Incoming traffic is first classified to identify a leaf class. HTB uses the concept of tokens and buckets to schedule and shape traffic. Each class or node in the hierarchy has a bucket of tokens associated with it. HTB mechanisms allocate so-called tokens for the buckets at regular intervals. Scheduling a message or packet for transmission results in deducting an amount of tokens from a corresponding bucket, and is permitted when the corresponding bucket includes a sufficient number of tokens.

Id. at 10:15-29 (emphasis added). In turn, Figures 12 and 13 “are diagrams showing example hierarchical token bucket (HTB) hierarchy configurations.” *Id.* at 2:61-62. Figure 12 depicts a hierarchical structure with a class structure arranged in three levels:



'818 patent, Fig. 12; Fig. 13. The patent discloses that Figure 12 “illustrates a hierarchical configuration that allocates processing resources to virtual I/O communications across a plurality of application servers. In a particular implementation, the root node 1201 may represent the physical resources of one or more I/O fabric network interfaces 110.” ’818 patent at 10:2-11.

Notably, there is no other disclosure of the properties of the HTB anywhere else in the specification. Thus, based on the patent’s clear disclosure, the HTB is (1) “class-based,” (2) has two or more hierarchical levels (in the Figure 12 example, there are three), (3) has a “bucket of tokens” associated with each class, and (4) in operation, “[s]cheduling a message or packet for transmission results in deducting an amount of tokens from a corresponding bucket” *Id.* HPE’s construction precisely captures each aspect of this coined “HTB” term, while IV’s captures none of them. HPE’s construction is therefore correct.

VIII. CONCLUSION

For the foregoing reasons, HPE respectfully requests the Court adopt HPE’s proposals and the parties’ agreed claim constructions, which are attached as Exhibit 1 to this brief.

Dated: October 6, 2021

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that on this 6th day of October, 2021, all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document through email.

/s/ John M. Guaragna
John M. Guaragna